

## MASSAGING BED REST WITH LIGHT

### CROSS-REFERENCE TO RELATED APPLICATIONS

This application claims the benefit of copending U.S. provisional patent application  
5 serial No. 60/212,433 filed June 16, 2000, the teachings of which are incorporated herein by  
reference.

### FIELD OF THE INVENTION

The present invention relates to a back cushion, and more particularly, to a back  
cushion or bed lounger including built in massage motors for providing the user with a  
10 massaging action to the back, an integrated reading lamp, and controls for the massaging  
action and the reading lamp.

### BACKGROUND OF THE INVENTION

Cushioned bed loungers are known in the art. Bed loungers normally include a back  
portion and armrests or elbow rests. The back portion may be contoured and may include a  
15 padded neck or headrest. Chair back massagers also are known in the art. One form of prior  
art back massager is in the form of a pad containing a mechanical massage arrangement  
powered by electricity. In use, a person places the massager against the back of a chair,  
automobile seat, or couch and then sits down and leans back against the massaging device.  
Other configurations have the massaging elements built into the seat back, for example in a  
20 lounge chair or automobile seat. Such massagers include a back portion including a  
massaging element driven by an electric motor.

Tomlinson, U.S. Patent No. 5,895,365 discloses a bed rest cushion for providing a  
vibrating massage including a back portion, having a contoured forward surface and a planar

10 rear surface. The back portion includes a padded interior and a plurality of vibrating transducers disposed within the padded interior. The transducers have an electrical cord extending therefrom for coupling with an electric outlet. Armrests are pivotally coupled to the back portion and a control panel having multiple settings is in electrical communication with the vibrating transducers. A collapsible rectangular tray including L-shaped brackets may be secured to holes in one of the armrests and a light may be attached to the collapsible tray. The light has an electric cord for coupling with an electrical outlet on the control panel. Though no description of the contours of the cushion is given, there is nothing to indicate a lower back support which properly angles the user's shoulders against the back portion or that a head or neck rest is provided, so that the user will be comfortable, e.g., while reading or watching television. The separate light fixture and separate electric cord to be plugged into the control panel is a clumsy and cumbersome configuration which cannot be used unless attached to the tray, and is poorly positioned for providing a suitable reading light.

#### SUMMARY OF THE INVENTION

15 The present invention provides a cushion with an anatomically positioned and contoured head rest, shoulder and lower back support, and built-in massage motors in the back support to provide massage action. The cushion includes an integrated over the shoulder reading lamp extending from the back of the cushion and a control panel including a power on-off switch and power setting switches for the massager, and a power on/off switch or rheostat or solid state light dimmer for the integrated lamp. The lamp may include a light source, including but not limited to an incandescent, fluorescent, neon, or light emitting diodes (LED) light source.

In an alternative embodiment, massage motors may be provided within a moveable cushion which is detachably connected to the back portion by means, e.g., of an hook-and-loop type strip located on a tab extending from the moveable cushion and a retractable electric cord connection on the rear side of the moveable cushion plugs into the back portion of the cushion. In such embodiment, the moveable cushion contains massaging elements comprising a plurality of pulsating transducers arranged within the moveable cushion.

*(Ans B)* ~~Independent touch sensitive button controls for setting the speed of the motor, the levels of the vibration of the massaging elements and for power, and for turning the light off and on and a rheostat control may be maintained beneath a thin flexible membrane, or touch switch control panel, mounted on the upper side surface of an armrest. The thin membrane that covers the individual buttons prevents introduction of powders, fluids, oils or the like, into the switches while allowing independent setting of the controls. Other control button configurations are contemplated including individual molded buttons. Alternatively, the control panel may be connected to the cushion through a cord. In such case, the cushion may include a pocket for stowing the control panel, or the control panel may be releasably mounted to the cushion by hook-and-loop fasteners of the like.~~

In another alternative embodiment a cushion for supporting a person in a sitting position may be provided. The cushion having a back portion having a contoured forward surface and a generally planar rear surface separated by a padded interior and a light source for providing light for a user, the light source being mounted to the back portion by an arm.

In yet another alternative embodiment a massaging bed cushion for supporting a person in a sitting position may be provided. The bed cushion having a back portion comprising a contoured forward surface and a generally planar rear surface separated by a

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20

padded interior, a plurality of massage motors enclosed between the forward surface and the rear surface, and a light source mounted to the back portion for providing light for a user.

#### BRIEF DESCRIPTION OF THE DRAWINGS

These and other objects, features and advantages of the present invention will be better understood with reference to the detailed description of the preferred embodiment and the accompanying drawings, wherein like numerals depict like parts, and wherein:

FIG. 1 is a perspective view of a cushion in accordance with one embodiment of the present invention;

FIG. 2 is an enlarged view showing details of the armrest control of the FIG. 1 embodiment;

FIGS. 3 and 4 are plan views of alternative embodiments of control panels of the FIG. 1 embodiment;

FIG. 5 is a perspective view of an alternative form of cushion in accordance with the present invention;

FIG. 6 is a side plan view of the cushion shown in FIG. 5;

FIG. 7 is a side view of the massage cushion in accordance with the FIG. 5 embodiment;

FIG. 8 is a front of the massage cushion shown in FIG. 7;

FIG. 9 is a top plan view of the control panel according to the FIG. 5 embodiment; and

FIG. 10 is a perspective view of a cushion in accordance with another embodiment of the present invention.

#### BRIEF DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring to FIGS. 1 and 2, a cushion 10 comprises a padded back portion 12 including padded head rest portion 13 and padded lower back support portion 14 contoured so as to be anatomically comfortable for the user. The back portion may comprise a contoured forward surface and a generally planar rear surface, the surfaces separated by a padded interior. Two pairs of massage motors 50b, 50a may be built into the cushion 10 in the area of the lower back and mid back area respectively, for massaging, respectively the lower back and scapula areas of the user. Massage motors 50a, 50b may comprise vibratory or percussive massage motors or pulsating transducers or powered rollers arranged within the back portion 12 to provide a massage. Power to the cushion 10 may be provided by electricity through AC cord and plug connection or by a rechargeable battery housed within the cushion and chargeable through a connection on the cushion (not shown).

*(Ans B3)*  
Padded armrests 17 and 18 may extend outwardly from opposite corners at the bottom of the back portion 12 substantially perpendicular to the rear surface. Armrest 18 may include a control panel 25. As shown in FIG. 3, the control panel 25 may be covered with a thin flexible membrane covering a plurality of touch sensitive control buttons/actuators or switches, including power on/off button 35, power on indicator light 36, speed setting control button or buttons (FIG. 4) 37, LED speed indicators 38, light on/off switch 39 for altering the on/off status of the lamp 20, and massage program buttons 40a,b for adjusting the pulsating transducers or massage motors located in the bed lounger back and for setting massage sensation and intensity of the massaging elements. The thin tactile membrane covering the full control panel may help keep massage oils, powder, fluids, or the like from gumming up the buttons or otherwise entering the cushion itself. This can make cleaning easier and provide longer operational life.

*Ans B3*

An over-the-shoulder lamp 20 may extend from the rear of the back portion 12 of the cushion 10 on a flexible arm 21. Alternatively, the lamp 20 may extend from the front surface or a side surface of the cushion. Lamp 20 and arm 21 may be pivotably connectable at the rear of the cushion 10 to a lamp support housing 23 (not shown) through which an electrical communication may be made and the lamp 20 can be turned off or on. The flexible arm 21 may enable the user to adjust the angel and position of lamp 20. The mass and materials forming the cushion may provide sufficient vibration attenuation and isolation to protect the filaments of a light bulb in the reading lamp.

Preferably, an insulated drink holder 52 may be located in armrest 17. If desired, a removable cover (not shown) may be provided for closing off drink holder 52, when not in use.

Referring to FIGS. 5-9, there is shown an alternative embodiment of a cushion in accordance with the present invention.

*Ans B4*

Referring to FIGS. 5-9, a cushion 110 comprises a padded back portion 112 including padded head rest portion 113 and padded lower back support portion 114 contoured so as to be anatomically comfortable for the user. The back portion may comprise a contoured forward surface and a generally planar rear surface, the surfaces separated by a padded interior. Alternatively, the contoured front surface and the planar rear surface maybe separated by an inflatable bladder. The firmness of the bladder may be user adjustable. The bladder may be filled by a pump located inside or outside of the bed cushion. A movable massage cushion 115 may be attached to the cushion 110 in the area of the lower back support portion 114 by means of a hook-and -loop fastener system wherein, e.g. a hook-type strip 223 arranged on tab 116 extending from the movable massaging cushion 115. Hook type strip

10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20

engages with loops on the fabric of the back, or with loop strips mounted on the back.

Pulsating transducers or massage motors arranged within the massaging cushion 115 may provide a massage. At the option of the user, by disengaging hook-strip 223, massage cushion 115 may be moved to therapeutically deliver massage to other areas of the body, the back or neck, for example, or may be used simply as a pillow. If desired, massage cushion 115 may be unplugged from and detached entirely from the cushion 110. Power to the cushion 110 may be provided by electricity through AC cord and plug connection 130 and 131 respectively or by a rechargeable battery housed within the cushion 110 and chargeable through a connection on the cushion (not shown). Power to the massaging cushion 115 may be provided by extendable power cord 221 and plug 222 which can be connected to an outlet (not shown) located on the cushion 110, for example on the back portion 112 or on an armrest 117 or 118.

Padded armrests 117 and 118 may extend outwardly from opposite corners at the bottom of the back portion 112 substantially perpendicular to the rear surface. Armrest 118 may include a control panel 125. As shown in FIG. 5, the control panel 125 may be covered with a thin flexible membrane covering a plurality of touch sensitive control buttons/actuators or switches, including power on/off button 135, power on indicator light 136, speed setting control button 137, LED speed indicator 138, light on/off toggle switch 139, and various massage program buttons 140a-d for adjusting the pulsating transducers or massage motors located in the massage cushion 115 and for setting massage sensation and intensity of the massaging elements. The thin tactile membrane covering the full control panel 125 may help keep massage oils, powder, fluids, or the like from gumming up the buttons or otherwise entering the cushion itself. This can make cleaning easier and provide longer operational life.

HAYES, SOLOWAY,  
HENNESSY, GROSSMAN  
& HAGE, P.C.  
175 CANAL STREET  
MANCHESTER, NH  
03101-2335 U.S.A.

603-668-1400

Alternatively, as shown in phantom, the control may comprise hand-held device 300 connected via wire 302 and stowable in a pocket 304 in the arm or removably attachable to the arm via hook-and-loop fasteners (not shown).

An over-the-shoulder lamp 120 may extend from the rear of the back portion 112 of the cushion 110 on an arm 121. Alternatively, the lamp 120 may extend from the front surface or a side surface of the cushion. Lamp 120 and arm 121 may be pivotably connectable at the rear of the cushion 110 to lamp support housing 123. Lamp support housing 123 also may be removably attachable to the cushion 110. By securing lamp support housing 123 to the cushion 110, an electrical communication may be made and the status of the lamp 120 can be adjusted or altered using switch 139. The electrical communication between the lamp 120 and the control panel 125 may be enclosed within the interior of the cushion 110. The switch 139 located on control panel 125 may operate as a toggle switch to alter the on/off status of the light source in the lamp 120 and/or as a light dimmer to adjust the intensity of the light source in the lamp 120. The light dimmer can be a rheostat or a solid state dimmer. The user can alter the on/off status of the light source using the toggle switch and can adjust the intensity of the light source using the rheostat or the solid state dimmer. Handle 122 may enable the user to adjust the angle and position of lamp 120. The mass and materials forming the cushion may provide sufficient vibration attenuation and isolation to protect the filaments of a light bulb in the reading lamp.

As shown in FIG. 6, the back portion 112 of the cushion 110 is capable of being reclined. The back portion 112 can be adjusted to a variety of angles relative to the armrests 117 and 118. The back portion and the armrest can be locked in a desired position with a knob 135. The armrests 117 and 118 may be foldable into an upright position along side the

back portion 212. Alternatively, the armrest may be removable attached to the back portion with a hook and loop type fasteners. To adjust the angle, the user simply detaches the armrests and then reattaches them to the back portion at a different angle.

Through positioning of the massaging cushion 115 the massager may be capable of  
5 adjusting to and making contact with the contours of the body thereby providing maximum therapeutic massage effect to various body parts previously unreached by conventional massage bed rests. This may provide the user with a greater range of therapy and will accordingly be of greater benefit. In addition, with the ability to independently manipulate  
10 the speed, intensity and the pattern of the massage, the user may create a multitude of sensations to attain the desired result.

Referring to FIG. 10, a cushion 200 comprises a back portion 212 including padded head rest portion 213 and padded lower back support portion 214 contoured so as to be anatomically comfortable for the user. The back portion 212 may comprise a contoured forward surface and a generally planar rear surface. The bed cushion may further comprise  
15 armrests 217 and 218.

A heat source 220 may be built into the cushion 200 in the area of the lower back and/or mid back area, for providing heat to a user. Controls may be provided in a control panel 225 to allow the user to adjust the heat output.

A movable pad 215 may be attached to the bed rest cushion 200 in the area of the  
20 lower back and/or mid back area by means of a hook-and-loop fastener system. The pad 215 may comprise a liquid-absorbable material such as a sponge or foam material. When moistened, the pad 215 and the heat source 220 can provide the user with a moist source of heat. The absorbable material may be enclosed in a washable cover material.

HAYES, SOLOWAY,  
HENNESSY, GROSSMAN  
8 HAGE, P.C.  
175 CANAL STREET  
MANCHESTER, NH  
03101-2335 U.S.A.

603-668-1400

The bed rest cushion 200 may comprise a speaker or a plurality of speaker 226 located in the head-rest portion 213 and/or in the armrests 217 and 218. The speaker/s may be capable of generating sound waves such as soothing sounds or music from an audio source located within the bed cushion or from an external audio source.

5       The bed cushion 200 may further comprise a telephone. The telephone may have a corded or cordless handset 260 with buttons 266 for accepting or making phone calls, a speaker 262 and a microphone 264. The bed cushion may have a cradle 270 to hold the handset 260 and/or recharge the phone. The base station for the cordless handset may be housed within the bed cushion or located outside the bed cushion.

10      In another embodiment, there is no handset. The speaker/s 226 may be utilized to allow the user to listen to a call and a microphone 268, possibly housed at the end of a flexible arm 221, may be utilized to allow the user to talk during a call. The flexible arm 221 may also house a lamp 222. In this embodiment, a control panel 290 may comprise a button 292 for initiating and/or ending a phone call and buttons 294 for dialing phone numbers. The 15 control panel 290 may further comprise user programmable or factory preprogrammed speed dial buttons that allow the user to quickly connect with the police and/or frequently called family and friends.

20      The bed cushion 200 may further comprise a built in remote control transmitter 280. Output signals such as infrared and radio frequency signals may be generated by actuation of buttons on the control panel 290 and may be sent to the device to be controlled through the transmitter 280 located in the armrest 217 or 218 or on the flexible arm 221.

      The bed rest cushion may be enclosed in a washable removable cover. The cover may also be splash resistant.

HAYES, SOLOWAY,  
HENNESSY, GROSSMAN  
& HAGE, P.C.  
175 CANAL STREET  
MANCHESTER, NH  
03101-2335 U.S.A.

603-668-1400

The interior portion of the back portion and/or the arm rests of the bed cushion may comprise a single or multiple inflatable bladders or a medium or high-density foam. The inflatable bladder may be filled by an external pump through inlet 298 or by an internal pump controlled through the control panel 290. The cushion 10 and 110 may be embodied in many different varieties, including any combination of massagers, control panels, cup holders, heat sources, telephones, speakers, signal transmitters, and lamps.

Those skilled in the art will appreciate that still other modifications and variations of the present invention are possible in light of the above teaching. It is, therefore, to be understood that within the scope of the appended claims, the invention may be practiced otherwise than literally described, but fall within the scope therein

HAYES, SOLOWAY,  
HENNESSY, GROSSMAN  
& HAGE, P.C.  
175 CANAL STREET  
MANCHESTER, NH  
03101-2335 U.S.A.

603-668-1400